"U" IS FIGURED TO STEEL COLUMN

Revised: June 23, 1966

REVISED

WORLD TRADE CENTER

EXTERIOR WALL, SPANDRELS AND EXTERIOR COLUMN INSULATIONS

THERMAL CONDUCTIVITY AND HEAT TRANSMISSION COEFFICIENTS

Value Based on Wall & Column Design Shown on SK M-A-72 (June 23, 1966)

Fireproofing Material	Conductivity (k) BTU HR-SF-PER-IN.	R	"U" - Coefficient Transmission - BTU/HR-SF-°F At Sides of Column: With 1 5/8" F.P.	At Sides of Column: With 3/8" Polyurethane Included	At Outside Face of Column (W/Air Space): With 1 5/8" F.P.	At Outside Face of Column (W/Air Space): With 3/8" Polyurethane Included	At Outside Face of Column (W/Air Space): With 2" F.P. and 3/8" Polyurethane
1. Sprayed Mineral Fiber (Spraycraft)	.26	3.85	.135 ~~.151~~	.116 ~~.129~~	.136	.104	.092
2. Sprayed (Cementitious) Vermiculite (Monokote)	.75	1.335	.307 ~~.429~~	.221	.302	.182	.152
3. Laminated Gypsum Board (U. S. G. Fire Code)	1.11	.9	.345 ~~.595~~	.267	.385	.209	.195
4. Concrete (L.W. 100 PCF)	3.57	.28	.63 1.62	.353	.625	.264	.256
5. Vonco	.38	2.63	~~.225~~	.151	.185	.131	.127
6. Cafco	.27	3.7	.14 ~~.162~~	.119	.140	.106	.094

Notes:

1. Fireproofing for inside face of column is assumed to be 1 3/8" gypsum plaster having conductivity of 1.56 and the ove all transmission coeff. of .396 between the room and column steel.
2. Inside still air film resistance is taken as .68
3. Outside air film resistance is taken as .17
4. Air space resistance is taken as .97
5. Conductivity of polyurethane is taken as .17

NC:rt,dd

PA LAW DEPARTMENT 58904

R (3/8" urethane) = 2.2"

1. Spraycraft. .17 air film
.97 air space
6.25 1 5/8 FP.
7.39 = R $u = \frac{1}{R} = .135$
less .97 air space
6.42
2.2
8.62 $u = \frac{1}{8.62} = .116$

2. 1.14
2.17
3.31 u = .302
.97
2.34
2.2
4.54 u = .221

3.31
2.2
.5
6.01

3. 1.14
1.46
2.60 u = .385

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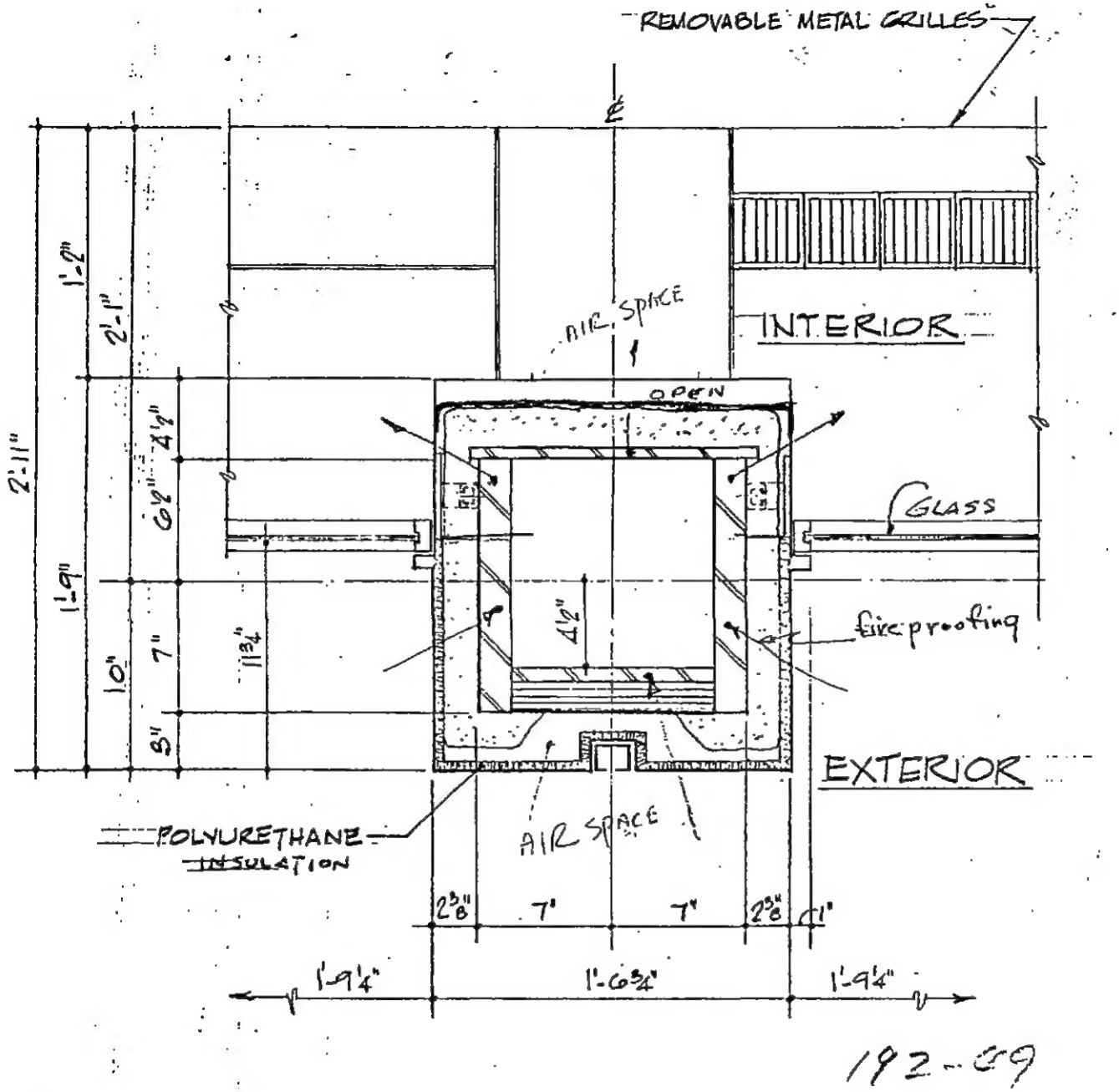
4. 1.14
.455
1.595 u = .63
.97
.625
2.2
2.825 u = .353

5. 1.14
4.27
5.41 u = .185

5.41
2.20
.986
8.596

1.14
6.01
7.15 u = .14

9.35
1.39



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EXTERIOR WALL COLUMN

TOWERS A & B

SCALE 1½"=1'-0"
DRAWN BY S.R.
APPROVED

THE PORT OF NEW YORK AUTHORITY
THE WORLD TRADE CENTER

DATE JUNE 23 1966 PROJECT NO DRAWING NO. SK-M-A-72